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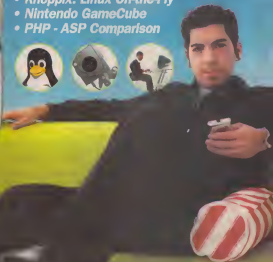
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It's hot - inside and hot

By Joshua Paul



PerformancePC's growth continues to be hot hot hot! The publication continues to grow and attract new readers and advertisers! We'd like to Welcome FastPort, Linkman PC, and Mediasonic to our July issue! Thank You guys!

In other exciting developments, our team has been researching what readers want, and we are pleased to announce the following editorial sections: Connectivity, Computing, Entertainment, and Career/Lifestyle.

Connectivity will profile the Internet, networking, wireless connectivity and cell phones. The Computing section will feature hardware and software. For the Entertainment section we will look at games, movies and music, and in Career/Lifestyle we will look at education choices, ergonomics, and how we interact with computers.

With the hot dry weather comes the problem of keeping server rooms cool. One solution that caught my attention

with an impressive display was Novec 1230 by 3M (see <http://www.3m.com/na/US/en/2-68/waterFR/view.html> for more info).

This product is a liquid at room temperature - and has properties such that a running laptop can be completely immersed in the liquid and the laptop will continue running. When I saw this demonstration on TV I immediately wondered about the cooling potentials of this product.

After talking with 3M representatives I learned that they were thinking about the same thing. I told them how I imagined being able to plug my laptop into a cooling network - that would pipe a liquid such as Novec 1230 through my laptop. They said such a thing would be possible in the future - and though it would not be Novec 1230 - it would be a related product belonging to the same family.

We hope you enjoy reading this issue as much as we enjoyed making it. We welcome any comments or suggestions you might have. Please email me at publisher@performancepcmagazine.com. ☺

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Motorola V600 Camera Phone

By Rebek Klossner

We'd like to thank Motorola Canada (www.motorola.ca) for helping us do this review. Motorola V600 is the flagship of Motorola phones. This Phone is feature packed. Almost too many to point out. That's not always a good thing though as I found myself often lost searching for a feature through the menus. As for the clamshell design, all I can say is that it depends on your personal taste. I am not a big fan of the design. I know many people who only go with the design, but from my experience, every time that you have moving mechanical parts in a device, there is going to be problems with it. I found myself occasionally slamming the shell shut at least a few times.

I didn't find the manual very helpful as it teaches only the basic features, and leaves the rest for you to figure out. For example, the cell phone has a video playback feature. But there is hardly any mention of what formats it can play, and what the limit size of the video files has to be. I found out by trial and error that pictures of a certain size couldn't be viewed on the phone. You can download them into the phone, but when it's time to see them, you get an error message saying the picture is too big.

Reception

Reception and sound quality wise, this is an awesome phone. Even in very remote, noisy places, I was well heard. The bluetooth carpiece looks good, is compact and the sound quality is great. The V600 is a true world phone. It is a GSM Quad Band. So if you travel abroad and need to use your phone in different parts of the world, this feature really works for you.

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DDR 512MB 400FSB

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Battery

The three-hour battery life seemed a bit short for me. It basically means that you either have to charge your battery every night, which is not recommended for batteries, or keep an extra charged battery with you all the time, and that can cost another \$100.

Messaging

This phone is capable of multimedia text messaging. It can send attachments such as pictures, or sound

to other multimedia text messaging cell phones. I tried sending a few multimedia texts to my friends, but none of them could receive the pics. Unless you know for sure that your friends have that capability, it's not a good idea to send them a multimedia message, because they probably won't get it. So there goes another feature that is pretty much useless, unless you are sure of the other person's cell phone capability.

Connectivity Kit

Connectivity has always been an important feature for me. I have too many people on my contact list to sit down and type everyone's phone

General

Network	GSM 900 / 900 / 1800 / 1900
Dimensions	80.5 x 42 x 23.5 mm
Weight	98 g
Design	Clamshell
Antenna	Stub
Screen Colors	65000
Screen Size	176 x 220 px
Keypads	44Key Keypad
Photobook Capacity	1000
Speed Dial	8 names
Memory	5 MB
Battery Type	330 mAh U100
Talk Time	3.50
Standby Time	250

Features

Camera	Yes
Hot Keys	Optional
Loudspeaker	Yes

Messaging

EMS	Yes
MMS	Yes
SMS	Yes

Multimedia

Background	176 x 220 px
Games	J2ME
Ring Tones	MMF / MP3 / 24 chord
Screen Saver	Yes
Streaming Multimedia	Yes

Applications

Alarm Clock	Yes
Calculator	Yes
Calendar	100 entries
Email	POP3 / IMAP4 / SMTP
Mobile Chat	Yes
Productivity Tools	CRM
To-Do List	Yes
Voice Commands	20 entries
WAP	2.0

Connectivity

Bluetooth	Yes
Data Cable	Optional
GPS	Yes
Infrared Port	Yes
PC Sync	Yes



numbers one by one from the phone's keyboard, I have no idea what the programmers were thinking when they wrote the phone book application. For every entry you can only enter one number. So if I want to enter someone's home number as well as their email and mobile number, I have to make three different entries. Although this phone has bluetooth, you cannot sync your information unless you pay for the extra connectivity kit. The kit without the USB cable costs \$50, with the cable, \$80. Once I received the software, I installed it, and everything connected beautifully. That was the first and last time that I could get the connection. No matter how many times I removed and reinstalled the software, it just wouldn't connect with the phone. That was really disappointing. The idea is great though. To be able to sync your outlook calendar and contacts with your phone is a dream come true. Without that, I don't know anyone who actually uses their calendar and notepad functions on their phones. It just takes too long to type anything for most people. To me, that calendar and notepad feature is just a cosmetic accessory, and not really practical. The one single time that I did manage to connect the phone to the laptop, I downloaded all the pics that I took with the phone to my laptop, sent SMS messages from the laptop through the cell phone and even connected my laptop to the Internet. The only thing I didn't like was that once you pay almost \$600 dollars for a phone, it's something you would expect to get with the package.



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Camera:

The camera is great. The 640 X 480 resolution is double the usual resolution with most camera phones. You have the option to take the pictures with 3 different resolution settings. The auto brightness feature handled the different light situations very well, and gave a consistent bright image 90% of the time. There is a digital 4X zoom.

Display:

The main display screen is sharp and clear. It would have been nice if you could get different font sizes for different profiles. The customizable hotkeys I found to be very useful as I could set them for the applications that I use most frequently. I liked the external display. It's not just for looks. It actually has functionality. The two line display gives information such as time, caller id, battery level, reception strength, missed calls, blue tooth connection. Below that,

there is a multi color display that flashes different colors when you get calls from different categories in your contact list. The setup of this feature is not that easy though. I spent a lot of time trying to figure this feature out, only to get a call from someone and get a totally different ring tone than the one that I expected.

Conclusion

In conclusion, if money is not an issue for you, this is a great phone. As for a basic phone, it's dependable, sturdy and has good reception. The camera feature is a lot of fun, and you can actually get decent pictures from it. I admit the phone has a distinct prestigious look about it. It's definitely an eye-catcher. The connectivity features need some refining though. From Rogers AT&T, you can get this phone for \$350 with a 1-year contract, or \$500 with a 2-year contract. ■

Thanks to Motorola (www.motorola.ca)



PROS	CONS
Snapshot camera	No Mac support
Good camera	Incomplete manual
Sharp display	The phone looks
True quad band world phone	Do/nt buttons are recessed compared to what is the norm on the market
Video playback	Connectivity software has a mind of its own
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Excellent reception	
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GAMECUBE



Nintendo GameCube



By David Klemm

Thanks to Nintendo Canada (www.nintendo.com) for providing us with the GameCube along with all the accessories to make this review possible. The first thing that hit me when I saw the GameCube was its small compact design. Its nothing compared to the heavy, large Xbox.

If you get the Nintendo GameCube then you get the system itself, a GCcontroller, video cables, AC cord, and instructions for around \$150 Canadian. Then add another \$100 to get the memory card and a sample game. The system has four controller ports in front of the machine. The GameCube has a 485 MHz processor, a little stronger than the PS2's 300 MHz processor but weaker than the Xbox's 700 MHz. The disc games are half the radius of a normal CD, but they can hold over twice the data of standard CD ROM.

The graphics is not as sophisticated as of Xbox's engine. Nintendo is attractive to players who want the cartoon feel and like of a

Features

- Contemporary cube shape
- 4 controller ports
- 2 memory card slots
- Capacity for future modem/Internet connection
- 485MHz custom CPU with 93MHz custom graphics processor
- 40MB total memory, 2.6 GB per second memory bandwidth
- 12M polygons per second texture load bandwidth 10.4 GB per second
- 64 audio channels
- Dimensions 4.6" x 5.8" x 6.3"



game. They are not going for audience who want games that simulate reality or for graphic-intensive demanding players. The GameCube has a strong library in some areas, but they are weak in many other areas as well. Nintendo's Mario, Metroid and Zelda have their own cult followers. And they are a big success. The GameCube's library has

also taken a lot of heat for being too family-centric and not providing enough mature games. However, that doesn't mean you have to be a kid to enjoy most of their games. The lack of mature rated games shouldn't be a detriment to the console, rather a seal on the gaming industry for relying on objectionable material to generate interest.

I don't understand why Nintendo did not make GameCube backward compatible with the older Nintendo systems. Even the controllers of the



older systems are not compatible with GameCube's. A very cool feature is the GameCube being able to connect to GameBoy Advance, allowing secrets to be kept from other players (such as choosing plays in sports) and supplementary screens (like a radar that won't have to clog up the screen).

Overall, there is a lot of potential in the GameCube. First of all it is well priced. For around \$250 you are well on your way with a good system with maybe a couple of games. Even though there is a modest connection on the bottom of the unit, if you want to play games online, you're out of luck with the GameCube for now as there are hardly any online games out there for the GameCube. The one thing that would be a real concern for me is the backward incompatibility issue. I want to be able to keep my old games and play them on the upgraded console. ■



An Adventure You Might Have Missed: The Legend of Zelda: The Wind Walker

by Andy Rock

The Legend of Zelda: The Wind Walker is yet another successful addition to a series that begins back in 1986 when the original Zelda quickly became one of the most popular video games ever! Wind Walker is the latest installment in the series and you will control the winds and sail through an archipelago of fantastic isles, landing wherever you pleased if you wish to save the world here. Cool!

The game is a year old already but the world is rendered beautifully in a stylized 3D cartoon-like look and feel that is so good it is no better than the animation in Saturday morning cartoons. The characters and scenes you'll encounter as you quest are imaginative and unique and convey a surprising amount of expression in their physical animation.

If you haven't tried this game yet and enjoy adventure games, then don't wait any longer — check it out today. Now that it's a year old you may be able to find the game on sale or second hand. ■

Pros

Cons

Designed game console in its market	Not backward compatible with other games
Designed and not adapted	The games are mostly stored in your own files
Fun games	Can not play GBA in GBA
Great economics and connectivity	No real online games
Good system for kids	

Pros

- Easy to pickup
- Appealing to all ages
- Excellent sense of adventure
- Beautiful "cartoon style" graphics and atmospheric audio

Cons

- Lots of linking — will frustrate "casual" gamers
- Managing inventory and button configurations can be awkward
- Could have used a quest log to help those quest master

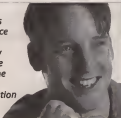


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Thanks to all the readers for their support and to all the contestants for taking the time to enter the contest. This month's winner of the Inkjetmart digital camera is: Jodi Bye from North Vancouver. Don't forget we have another contest this month, so please go online and enter to win another digital camera from inkjetmart. thank you all!



Knoppix:



By Keith Schlegel-Roberts

install steps. Knoppix is the perfect introduction for anybody wanting to check out Linux without having to commit to it.

Getting and Using Knoppix

What is Knoppix? It is a version of the Linux operating system that comes on a self-booting CD. More than that, it also comes with a collection of useful Linux software, including OpenOffice and much of the tools and programs that come with the popular KDE desktop, including the Konqueror and Mozilla Web browsers. Little to no configuration is necessary, as it uses automatic hardware detection that supports a wide range of graphics cards, sound cards, USB devices and many other peripherals. In the vast majority of cases all you have to do is put Knoppix in your CD drive, and reboot your machine in order to load it up on your system. It manages to cram all of this onto a single CD by using on-the-fly compression, so in fact the CD comes with about 3GB of software on it.

Knoppix requires minimal system requirements to run – you can even run it on an old 486 system with 32MB of RAM, though the faster the machine, the better the performance. The machine will also need to have a bootable CD-ROM drive, standard SVGA-compatible video card along with a standard keyboard or mouse. Despite the low minimum requirements, thanks to the high rate of compression used on the CD, anything less than a decent Pentium III machine with a good amount of RAM is likely to yield sluggish performance. Knoppix is based broadly on the Debian version of Linux, a version most popular in mainstream Europe. Knoppix itself is a originally a German-based project, though its English-supporting Website and software are well-translated, especially since it has strong following in the English-speaking world.

But of course in order to be able to use Knoppix you'll first have to obtain a copy of it. Like all major versions of Linux, Knoppix falls under the GNU General Public License which

Have you heard a lot about Linux, and are interested in giving it a try, but have yet to take the plunge? Or maybe you've investigated it, but have balked at dedicating a computer system to it, or find the prospect of partitioning an existing drive for a dual boot system too daunting? If you fit into one of these categories, or are simply looking for a simple way of running and using Linux on your existing Windows machine, then Knoppix is worth a look. Knoppix is a version of the Linux operating system that can be run completely from a CD drive, installing itself "on-the-fly" – there's no need for any partitioning or dealing with fiddly

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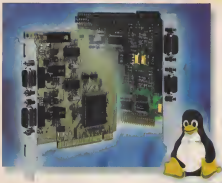
Linux On-the-Fly

effectively means that you can obtain a copy of this software for free. There are many sites you can download the software from, and a full list can be

found at: <http://www.knopper.net/knoppix-mirror/index-en.html>. If downloading 700MB's worth of files seems daunting, you can buy a copy

from a Knoppix vendor (see: <http://www.knopper.net/knoppix-vendors/index-en.php> for a list) typically for not much more than the cost of a blank disk and shipping, or ask a friend who has a high-speed connection to download it for you. What you get is a single compressed .iso disk image file. To be able to create a bootable CD from this file, you will need a program capable of reading .iso image files – like Nero or Roxio to name only a couple – and being able to write their contents to a standard CD.

Once you've written the .iso file to a standard 700MB CD-ROM, you have to ensure that your machine is capable of booting directly from your CD-ROM drive. This behaviour is typical of more recent machines, and you might want to see whether or not your newly-burned CD will boot into Knoppix for you right off the bat. If not, then you will need to go into your computer's BIOS – which can typically be done by pressing the Delete key while turning on your



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computer – and tell your computer to look to the CD-ROM drive as one of its list of devices that it can boot from.

Assuming everything has run smoothly (and in the vast majority of cases it should) all you will have to do is hit the Enter key when prompted, and the familiar Linux mascot Tux the penguin will appear, ushering in the Knoppix OS to your system. If you have plenty of RAM on your system (more than 512MB) you can increase Knoppix's performance by loading everything into memory by simply typing in "knoppix mem=1" instead of simply hitting Enter. With everything being loaded either from your CD or from your system's memory, everything is completely reversible – just remove the CD from its drive and reboot to go back to Windows.

What You Get with Knoppix

So what can you expect from Knoppix the first time you load it? Many users may be surprised to find a surprisingly Windows-like interface, complete with the equivalent of a Start button, icons on your desktop for launching commonly-used applications, even a clock in the lower-right corner. Making your way around this interface is easy, and the interface will be largely familiar to anyone coming from a Windows background.

What is surprising is the number of programs that have squeezed onto a



single CD-ROM. In addition to the OS, you get your choice of two popular browsers (Mozilla and Konqueror), video and MP3-playing applications, Internet connection software, data recovery tools, image manipulation software (GIMP), along with OpenOffice, a suite of applications nearly mirroring (and largely compatible with) a Microsoft product of similar name. In all you get more than 900 installed software packages with over 2000 separately executable programs, utilities, along with a few simple games to add some fun to the mix.

If you are unsure that Linux will run on your target system, Knoppix is worth trying as a "test" to see whether the proper drivers exist to support your

system. If you can run your computer under Knoppix, then you can be sure that it will run under other popular Linux distributions, such as Red Hat, Fedora, Debian and SuSe.

What Can You Do With It?

There is plenty you can do with Knoppix other than to see whether or not Linux will run on a given computer system. In addition, Knoppix excels as a data recovery tool and for some system administration and troubleshooting tasks.

If you are looking to recover a system that has crashed so badly that it will no longer boot, Knoppix may also be able to help you out. It's wide range of disk recovery tools – for both Windows and

Linux systems – make it possible to recover files off of hard drives that aren't completely dead. The CD also comes with a host of system administration utilities designed to allow you to detect, trace and prevent malicious crackers from getting on to your system.

In many ways Knoppix can be thought of as a "best of" collection of what Linux has to offer the adventurous user – who in this case doesn't have to be too adventurous to run Knoppix in what is essentially a "no commit ment" deal. If you are strongly considering loading a version of Linux on your system, definitely consider trying Knoppix first.

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PHP – ASP Comparison

By Bobak Khosravi

PHP and ASP are two popular scripting languages for server side programming. PHP has become the Linux of scripting languages. It started out as a simple language and with the help of the PHP community, has grown to be a very popular and powerful scripting language. One of the biggest advantages of PHP is that it is open source. Some of the advantages of open source software are as follows:

- Open source software is free to use, copy, and modify, which makes it a great deal for clients.
- It is also highly flexible, because it allows the developers to extend the software and customize it for their clients' requirements.
- There are no requirements to purchase commercial licenses and pay continuously for upgrades.

PHP

PHP is cross platform, running on almost every available platform that exists. So whether you are using Linux, Mac, or Windows, or if you ever want to move your program to another platform, you will not have to change your program to suit the new OS. Another great advantage of PHP is that much of its syntax is borrowed from C, Java and PERL, with a couple of unique PHP specific features thrown in. So if you have previous experience with these languages, there is a steep learning curve.

Source: <http://www.php.net/usage.php>

ASP

ASP (Active Server Pages) is a Microsoft Technology. ASP is not really a language in itself, it's an acronym for Active Server Pages, and the actual language used to program ASP with is Visual Basic Script or JScript. It is closed source, so if you ever encounter a bug or problem you have to report it to Microsoft and have them fix it for you. ASP only runs inside IIS, so run IIS you must have Windows NT 4.0 or later. It is best suited for main-sites having 100 to 500 hits per day. It is a COM based Technology. When an ASP programmer uses VBScript, he is running a COM object. When he writes to the client, he's calling the Response COM object's Write method. When he accesses a database, he uses another COM object to do so. When he accesses the file system, another COM object is called. All this COM overhead adds up and slows things down.

Comparison PHP vs. ASP

Some of the pros of ASP are that since it primarily uses VBScript it is relatively easy to pick the language up if you

already know how to program in Visual Basic. But still, PHP is cheaper to implement and more stable than ASP. On the other hand, because ASP support is enabled by default on the IIS server it is very easy to get up and running. The components built in ASP are really limited, so if you need to use "advanced" features like interacting with FTP servers, you need to buy additional components. All else being equal, PHP is faster than ASP. ASP supports multiple programming languages. This architecture is inherently slower and more memory intensive than PHP's model because each ASP language compiler runs in its own process. So when ASP detects a Begin ASP tag () it will do a context switch back to the HTML parser. One of the most important factors is PHP's security. IIS Server is notorious for its security holes. As for coding, typically the same functionality can be accomplished in less code with PHP than with ASP. This is because the HTTP GET and POST variables are created automatically by PHP as global variables, thus eliminating the step of extracting them from the ASPRequest object. Finally, PHP's HTTP header manipulation functions are easier to use than in ASP.



Clustering Technology Solutions

Clustering Technology is the grouping of servers to access very large databases. In a database cluster, data is

	mySQL*	Access*	Oracle*	SQL Server*	
PHP*	Started 19:08:47	Started 18:42:40	Started 18:43:47	Started 18:35:22	* mySQL 3.23.40 Microsoft Access 2000 Oracle 8i Personal Edition SQL Server 2000 Standard Edition PHP 4.0.4pl1 ASP 3
	Finished 19:09:08	Finished 18:43:08	Finished 18:35:25	Finished 18:37:15	
	243673 records found	243673 records found	243673 records found	243673 records found	
	13 secs	25 secs	1 min 38 secs	57 secs	
ASP*	Started 18:57:13	Started 18:41:52	Started 18:32:58	Started 18:42:40	In the test, MySQL - The fastest server-side technology was PHP Oracle - The fastest server-side technology is ASP - PHP was fastest with MySQL. ASP was fastest with Oracle. Slowest database and server-side technology was ASP and SQL Server
	Finished 18:58:36	Finished 18:42:13	Finished 18:33:15	Finished 18:42:34	
	243673 records found	243673 records found	243673 records found	243673 records found	
	23 secs	37 secs	17 secs	4 mins 48 secs	

Source: <http://www.phpcpc.com/benchmarks/>

distributed over a group of inter-connected databases residing on multiple servers, or nodes. With MySQL Cluster, the databases in the cluster work as one powerful, fault-tolerant database running on low-cost commodity hardware and software.

Links for more info: <http://www.mysql.com/products/cluster/>

Linux is perfect for clustering. With clusters, it is fast

enough and with no single point of failure. A cluster of four Linux machines is more reliable and less expensive than an IBM mainframe. The problem with traditional databases is that you are constantly in an endless upgrade cycle. MySQL is fully integrated with PHP. This new clustering technology is also available for use with PHP over a spread of many different servers. ASP is only Microsoft technology based, and expansion of any of its modules can be very expensive. ☐

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